

SEQUENCE LISTING

<110> BTG International Ltd

Iggo, Richard

Malerba, Maddalena

<120> ANTI-NEOPLASTIC VIRUSES

<130> 144240WO

<140> GB

<141> 2002-08-22

<213> Parvovirus H1\MVM (phH1)

<212> Type : DNA

<211> Length : 5121

SequenceName : Parvovirus H1\MVM (phH1)

SequenceDescription : Parvovirus H1 with promoter P4 and left hairpin from MVM (phH1-

<400>

```

aacctccctg aaccgcttat catttttaga actgaccaac catgttcacg taagtgcagt   60
gatgacgcgc gctgcgcgcg cgccttcgga cgtcacacgt cacttacgtt tcacatggtt  120
ggtcagttct aaaaatgata agcgggttcag ggagtttaaa ccaaggcgcg aaaaggaagt  180
ggcggtgggt taaagtatat aagcaactac tgaagtcagt tacttatctt ttcttcatt   240
ctgtgagtcg agacgcacag aaagagagta accaactaac catggctgga aatgcttact  300
ctgatgaagt ttgggagca accaactggt taaaggaaaa aagtaaccag gaagtgttct  360
cattgtttt taaaaatgaa aatgttcaac tgaatggaaa agatcgcgga tggaatagtt   420
acaaaaaaga gctgcaggag gacgagctga aatctttaca acgaggagcg gaaactactt  480
gggaccaaag cgaggacatg gaatgggaaa ccacagtgga tgaatgacc aaaaagcaag  540
tattcatitt tgattctttg gttaaaaaat gtttattga agtgcctaac acaagaata   600
tatttctctg tgatgttaat tggtttctgc aacatgaatg gggaaaaagc caaggctggc  660
actgccatgt actaattgga ggaaaggact ttagtcaagc tcaagggaaa tgggtggagaa  720
ggcaactaaa tgtttactgg agcagatggt tggtaacagc ctgtaatgtg caactaacac  780
cagctgaaag aattaaacta agagaatatg cagaagacaa tgagtgggtt actctactta  840
ctataagca taagcaaacc aaaaaagact ataccaatgt tgttcttttt ggaacatga   900
ttgcttacta ttttttaact aaaaagaaaa taagcactag tccaccaaga gacggaggct  960
attttcttag cagtgcactc ggctggaaaa ctaacttttt aaaagaaggc gagcgccatc 1020
tagtgagcaa actgtatact gatgagatga aaccagaaac ggtcgagacc acagtacca 1080
ctgcacagga agctaagcgc ggcagaattc aaactagaga ggaggtctcg attaaaacca 1140

```

cactcaaga gttggtacat aaaagagtaa cctcaccaga agactggatg atgatgcagc 1200
 cagacagtta cattgaaatg atggctcaac cagggtggaga aaacttgctt aaaaatacac 1260
 tagagatctg tacactgact ctacgaagaa ccaaaacagc ctttgacttg attctggaaa 1320
 aagctgaaac cagcaaaacta gccaaacttt ccatggctag caccagaacc tgtagaatct 1380
 ttgctgagca tggctggaaac tatattaagc tctgccatgc catctgttgg gtgctgaata 1440
 gacaaggagg caaaaggaaac actgtgctct ttacgggacc agccagcaca ggcaaatcta 1500
 ttattgcaca agccatagca caagcagttg gtaattgtgg ttgttacaat gctgccaatg 1560
 tgaacttcc atttaagac tgtaccaaca aaaacttgat ttgggtggaa gaagctggta 1620
 actttggcca gcaagtaaac caattcaaaag ctatttgctc tggccaaacc atacgcattg 1680
 atcaaaaagg aaaaggcagc aaacagattg aaccaacacc agttattatg accaccaacg 1740
 agaacttacc cgtgggtaga ataggctgtg aggaagacc agaacacact caaccaatca 1800
 gagacagaat gctcaacatt cactgacac gtacactacc tggtgacttt gggttgggtg 1860
 ataagcaga atggcctctg atctgtgctt gggttggtgaa gaatggttac caactacca 1920
 tggcttgta ctgtgctaaa tggggcaaaag ttctgtattg gtcagaggac tggggggagc 1980
 cgaagctaga cactcctata aattcgctag gtccaatgcg ctaccatct ctgactccga 2040
 gaagtagcgc tctcagcaa aactacgctc ttactcact tgcacggac ctggggacc 2100
 tagctctaga gccttggagc acaccaata ctctgttgc gggcactgca gcaaggcaaa 2160
 acactgggga ggctgggtcc acagcctgcc aagggtgctca acggagccca acctgtccg 2220
 agatcgaggc ggatttgaga gcttgcttca gtcaagaaca gttggagagc gacttcaacg 2280
 aggagctgac ctggactaa ggtacaatgg cactccagc taaaagagct aaaagaggta 2340
 aggggctaa ggatggttgg ttgggtgggt actaatgtat gactactgt ttacagccc 2400
 tgaatacact tggttctagg ttgggtgcct cctggctaca agtactggg accagggaac 2460
 agccttgacc aaggagaacc aaccaacctc tctgacgccg ctgccaaaga acacgacgaa 2520
 gcctagacc aatacatcaa atctgaaaaa aatccttacc tgtacttct tctgctgat 2580
 caacgcttca ttgaccaaac caaagacgcc aaggactggg gcggcaaggt tggctactac 2640
 ttttttagaa ccaagcgagc ttttgacct aagctttcta ctgacttga acctggcact 2700
 tctggtgtga cgagacttg taaacgaact aaaccactg ctacatttt tgaataatca 2760
 gccagagcta aaaaaaaacg cgcttctctt gctgcacagc agaggactct gacaatgagt 2820
 gatgcaccg aaacaaacca accagacact ggaatcgcta atgctagagt tgaagcatca 2880
 gctgacggag gtggaagctc tgggggtggg ggctctggcg ggggtgggat tgggtttct 2940
 actgggact atgataatca aacgacttat aagtttttgg gagatggatg ggtagaata 3000
 actgcacatg ctctagact tttgacttg ggaatgcct ctcagaaaa ctactggcg 3060
 gtaccgttc acaaatatca aacaacagga caggaacta aggtaaaggg aaacatggcc 3120
 tatgacacac atcaacaat ttggacacca tggagcttgg tagatgctaa tgcctgggga 3180

gtttggttc aaccaagtga ctggcagttc attcaaaaca gcatggaatc gctgaatctt 3240
 gactcattga gccagaact attaatgta gtatgcaaaa cagtcactga acaacaaggga 3300
 gctggccaag atgccattaa agtctataat aatgacttga cggcctgtat gatggttgct 3360
 ctggatagta acaacatact gccttacaca cctgcagctc aaacatcaga aacacttgg 3420
 ttctacccat ggaaaccaac cgcaccagct cttacagat actactttt catgcctaga 3480
 caactcagt gtacctctag caactctgct gaaggaaact aaatcacaga caccatttga 3540
 gagccacagg cactaaactc tcaattttt actattgaga acaccttgcc tattactctc 3600
 ctgcgcacag gtgatgagtt tacaactggc acctacatct taaactga cccacttaaa 3660
 ctactcaca catggcaaac caacagacac ttggcatgcc tccaaggaat aactgacct 3720
 ccaacatcag atacagcaac agcatcacta actgcaaatg gagacagatt tggatcaaca 3780
 caaacacaga atgtgaacta tgtcacagag gctttgcga ccaggcctgc tcagattggc 3840
 ttcatgcaac ctcatgacaa ctttgaagca aacagaggtg gccatttaa ggttcacgtg 3900
 gtaccgtag acataaacgc tggcgaggac catgatgcaa acggagccat acgatttaac 3960
 tatggcaaac aacatggcga agattgggcc aaacaaggag cagcaccaga aaggtacaca 4020
 tgggatgcaa ttgatagtgc agctgggagg gacacagcta gatgctttt acaaagtga 4080
 ccaatatcta ttccacaaa caaaaccag atcttcgagc gagaagacgc catagctggc 4140
 agaactaaca tgcattatac taatgtttt aacagctatg gtccacttag tgcatttct 4200
 catccagatc ccatttatcc aaatggacaa atttgggaca aagaatttga cctggaacac 4260
 aaacctgac tacacgtaac tgcaccattt gtttgtaaaa acaaccacc aggtcaacta 4320
 ttgttcaact tggggcctaa tctgactgac caattgacc caaacgcac aactgtttct 4380
 cgcattgtta catatagcac ttttactgg aagggtattt tgaattcaa agccaaacta 4440
 agaccaaatc tgacctggaa tctgtatac caagcaacca cagactctgt tgccaattct 4500
 tacatgaatg ttaagaaatg gctccatct gcaactggca acatgcactc tgaatcattg 4560
 attttagac ctgtgcctca catgacatac taaccaacca actatgttc tctgtttgct 4620
 tcacataata cttaactaa ctagactaca acataaaaa atactctaa taatagatta 4680
 ttaaaaataa cataatatg taggttgaact gtaaaaaata atagaacttt tgaataaat 4740
 atagttagtt gggttaattg agatagaata taaaaagatt ttgtattta aaataaatat 4800
 agttagtgg ttaattgttag atagaatata aaaagatttt gtatttggga aataaaaagg 4860
 gtggttggtt ggttggttgg tactccctta gactgaatgt tagggaccaa aaaaaataa 4920
 aaataattaa aatgaacaag gactactgtc tattcagttg accaactgaa cctatagtat 4980
 cactatgttt ttagggtggg ggggtgggag atacatacgt tcgctatgga ccaagtggt 5040
 ccggttggtt gcgctcaacc aaccggaccg gcttagccgg tccggttgg ttagagcttag 5100
 caaccaaccg gtaccacttg g